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Fact Sheet

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NOISE MONITORING AND WARNING SYSTEM

The Problem

Many of the Army's environmental noise problems stem from the low-frequency impulsive noise generated by artillery fire, explosives, and demolition. At many installations these noise levels may disturb surrounding communities when weather conditions enhance noise transmission. These infrequent but intrusive noises can lead to complaints even though the noise levels are well below applicable standards. Frequently, the Army is blamed for noise caused by civilian sources such as quarry or construction work.

The Technology

The U.S. Army Construction Engineering Research Laboratory (CERL) developed the Noise Monitoring and Warning System to directly help installations solve these problems by detecting and recording the noise levels at especially sensitive areas surrounding installations. The system can warn of adverse conditions, such as weather, that contribute to the propagation of noise over great distances. Since such adverse conditions are frequently short-lived, range managers can delay operations, thus decreasing the overall noise levels and minimizing complaints. Experience has demonstrated that virtually all noise complaints are from areas where the Army is complying with applicable standards and that as many as half of the complaints received by some installations are due to off-post, non-Army sources. The system documents compliance with applicable standards and provides tangible evidence to substantiate the existence of non-Army noise sources.

Benefits/Savings

The Noise Monitoring and Warning System benefits include reduced complaints, mitigation of noise, documented compliance, and avoidance of the Army being blamed for non-Army generated noise. The mere presence of a Noise Monitoring and Warning System can improve relations with the community by demonstrating the Army's willingness to cooperate with local residents. Enhanced public relations can be worth the equivalent of 5 dB of noise reduction and will reduce complaints. Five dB of noise reduction is very significant. To accomplish this noise level reduction, firing would have to be reduced to 1/3 of its existing level. If this system is used as designed, off- post noise is reduced and noise levels are monitored and recorded. These entire year complete noise measurements, document and confirm the computer predicted noise levels, and the peak levels can be used to authenticate or deny damage claims. When used in conjunction with range office firing records, the system can be used to separate Army noise from other, off-post impulsive noise sources. Thus a key benefit of the system is that it can eliminate the Army from incorrectly being "blamed" for non-army off-post noise.

Status

Systems are now operational at Fort Richardson, AK; Fort Campbell, KY; Picatinny Arsenal, NJ; McAlester Army Ammunition Plant, OK; Naval Air Station Fallon, NV; Fort Drum, NY; Camp Grayling,

MI, and Fort Riley, KS; and Fort Carson, CO. Any installation can set up such a system by contacting CERL.

Point of Contact

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